REMARKS

A review of the claims indicates that:

A) Claim 26 is currently amended.

B) Claims 21—25 and 27—41 are previously presented.

In view of the following remarks, Applicant respectfully requests reconsideration of the rejected claims and withdrawal of the rejections.

35 U.S.C. §112

Claims 35—41 were rejected under Section 112 as failing to comply with the written description requirement. The Office suggests that the specification included no support for computer readable media. The Applicant respectfully submits that at page 11, lines 26—30, the specification discloses that the teachings of the specification can be implemented in driver software of a computer node or in alternative locations. The Applicant respectfully submits that such software comprises computer readable media.

Regarding the Section 101 issue with the Office has not formally raised, the Applicant respectfully submits that the claims teach operation of a storage network, and more particularly how such a storage network can overcome a failure of a communication path (that is not available).

Claims 26—30 were rejected as being indefinite. The Examiner suggests changing "first storage node" to "first source node". The Applicant has made the correction to Claim 26. The Applicant believes that Claims 27—30 correctly state the situation. The Applicant would welcome the opportunity to discuss this matter, if needed, to make any appropriate correction.

Traversal of the §102 Rejections

Claims 21—24 and 35—37 were rejected under §102 as being anticipated by U.S. Patent No. 5,513,314, hereinafter "Kandasamy." In response, the Applicant respectfully traverses the rejection.

Traversal of Rejection of Independent Claim 21

Claim 21 recites a method of managing a write request from a first source node in a storage network to a first storage node in the storage network, comprising:

- if there is an available communication path between the first source node and the first storage node, then executing the write request from the first source node to the first storage node using the available communication path;
- **if there is not an available communication path between the first source node and the first storage node, then**:
  - **transmitting the write request from the first source node to a second source node if there is an available communication path from the first source node to the second source node and an available communication path from the second source node to the first storage node.**

Claim 21 recites, "if there is not an available communication path between the first source node and the first storage node". Thus, Applicant recites a failure mode wherein a communication path is not available. In contrast, the Applicant respectfully submits that the Kandasamy reference does disclose or address the situation wherein a communication path is not available. In particular, Kandasamy addresses a situation wherein the 'acknowledgement datagram' is not received (Kandasamy at column 12, lines 41—46). Because Kandasamy addresses a different failure mode, Kandasamy discloses a different structure

and/or method. The Applicant respectfully submits that Kandasamy does not anticipate the Applicant's claims.

Claim 21 recites, "transmitting the write request from the first source node to a second source node if there is an available communication path from the first source node to the second source node and an available communication path from the second source node to the first storage node". The Applicant respectfully submits that the Kandasamy reference does not disclose such a write request, transmitted from the first source node to the second source node, and then from the second source node to the first storage node.

Referring to Kandasamy at FIGS. 1 and 2, Kandasamy discloses first and second servers 12, 14, each with associated disk space. As seen in FIG. 1, workstations 18, 20 may request data from the servers 12, 14. Note that each of the servers includes a disk and file system (see Kandasamy at column 4, lines 52—58). Thus, the first server has its own disk and data (file systems) and so does the second server. Kandasamy discloses aspects of how the plural servers can provide a fault tolerant networked file system with mirroring (e.g. see Kandasamy at title).

The Applicant respectfully submits that Kandasamy does not show or disclose a failure mode where the first server 12 is unable to communicate with its disk and/or file system, or wherein the second server 14 is unable to communicate with its file system. In contrast, Kandasamy discloses what to do in the event of problems with acknowledgment data grams.

Referring to Kandasamy at column 12, line 65 and on, Kandasamy discloses a method by which the primary server 12 may initiate a convention write

operation directly to the secondary server 14. That is, the first server 12 may communicate directly with the second server 14 to write on the second server 14's disk. In particular, Kandasamy discloses:

> Alternately, the primary server 12, prior to issuing a completion datagram for the NFS write request, may itself initiate a conventional NFS write operation **directly to the secondary server 14** to force completion of the client requested NFS write operation. (Bold added.)

Thus, the Applicant submits that Kandasamy discloses that the first source node (i.e. Kandasamy's first server 12) transmits to the second source node (i.e. Kandasamy's second server 14) and forces that server (server 14) to do the write operation.

However, the Applicant respectfully submits that this actually indicates that the primary server 12 is communicating directly with the secondary server 14, and that it is the secondary server 14 which does the write operation on the secondary server's disk. Kandasamy specifically says that the primary server does the write operation directly to the secondary server, not the secondary server's media. In contrast, Applicant anticipates the circumstance wherein one source node is essentially disconnected from its storage node (disk drive). In this circumstance, the other source node, which has a direct connection to that storage node, steps up to do the read/write.

Looked at another way, the claim recites the first source writing on the first storage node using the second source to do the writing, since there is no communication between the first source and first storage node. In contrast,

Kandasamy discloses a first source writes on a second storage node using the second source to do the writing. (See column 12, lines 656 and on.)

Additionally, at page 9 of the Action mailed 10/22/2007, last 7 lines, the Office appears to acknowledge that Kandasamy does not specifically disclose the data transmission (the write) recited by Claim 21. The Applicant respectfully submits that the Section 102 rejection of Claim 21 is not appropriate, and respectfully requests that it be removed.

In summary, the Applicant makes at least two key points. First, that Kandasamy does not anticipate the failure mode recited in the claim, wherein no communication path is available between the first source node and the first storage node. Second, while Kandasamy discloses that the first source node (server 12) can write to the second storage node, Kandasamy discloses that it is done by the primary server 12 doing a write directly to the second server 14 (*not directly to the second storage node*). Looked at another way, Kandasamy's servers 12 and 14 can talk to each other, but they cannot read/write directly to each other's disk drives. Thus, Kandasamy does not disclose a structure and/or method to overcome a situation wherein the second source node is disconnected from the second storage node.

Therefore, the Applicant respectfully submits that Kandasamy does not disclose each of the elements claimed, and respectfully requests that the Section 102 rejection be withdrawn. The Applicant would welcome the opportunity to discuss the matter with the Examiner, in an interview, and welcomes the Examiner to call.

Claim 35 is very similarly worded to Claim 21, and was rejected in the same passage of the Office Action mailed 10/22/2007. Accordingly, the Applicant incorporates the above arguments by reference to address the rejection of Claim 35.

Claims 22—25 and 36—37 depend from Claims 21 and 35 and are allowable due to their dependence from an allowable base claim. These claims are also allowable for their own recited features that, in combination with those recited in Claims 21 and 35, are not disclosed by reference of record.

The §103 Rejections

Claims 26—30 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Pat. No. Kandasamy in view of U.S. Pat. No. 6,751,190, hereinafter "Swallow". In response, the Applicant respectfully traverses the rejection.

Traversal of Rejection of Independent Claim 26

Claim 26 recites a method of managing a write request from a first source node in a storage network to a mirrored storage data set having a first storage node and a second storage node in the storage network, comprising:

- if there are available communication paths between the first source node and both the first storage node and the second storage node in the mirrored data set, then executing the write request from the first source node to both the first storage node and the second storage node using the available communication paths;
- if there are no available communication paths between the first source node and the first storage node and the second storage node, then invoking an error routine;
- if there is an available communication path between the first source node and only one of the first storage node and the second storage node in the mirrored data set, then:
  - executing the write request from the first source node to the first storage node or the second storage node via the available communication path.

- **transmitting the write request from the first source node to a second source node if there is an available communication path from the first source node to the second source node and an available communication path from the second source node to the first storage node or the second storage node.**

The Applicant incorporates the remarks from above at this location. These remarks are relevant in that Kandasamy fails to teach or suggest a system and/or method that allows a first server to write to its own disk, even when there is no communication line between the first server and its own disk, by writing to another server with a communication line to the first server's disk. The Applicant respectfully submits that Swallow fails to remedy the failings of Kandasamy.

In making out the Section 103 rejection of Claim 26, the Office suggests that routing around failure is well known in the field of networking, and points to Swallow at column 8 line 1, suggesting that Swallow is an example of such routing. The Applicant respectfully distinguishes the 'routing' of packets and data taught by Swallow with the execution of commands (i.e. a "write request") which is recited by the claim.

Claims 27—30 depend from Claim 26 and are allowable due to their dependence from an allowable base claim. These claims are also allowable for their own recited features that, in combination with those recited in Claim 26, are not disclosed by reference of record.

Claim 31 recites a method of **performing a surrogate write operation** in a storage network, comprising:

- receiving, at a second source node, a query from a first source node, wherein the query identifies a target node in the storage network for **the surrogate write operation**;
- transmitting a reply to the first source node, wherein the reply includes a signal component indicating there is an available communication path between the second source node and the target node; and
- relaying write operations from the first source node to the target node.

The Applicant incorporates the remarks from above at this location. These remarks are relevant in that Kandasamy fails to teach or suggest a system and/or method that allows a first server to write to its own disk, even when there is no communication line between the first server and its own disk, by writing to another server with a communication line to the first server's disk.

In making out the Section 103 rejection of Claim 31, the Office suggests that Swallow and Kandasamy, taken together, disclose a surrogate write operation. The Applicant respectfully disagrees.

The Kandasamy reference teaches "proxy operations" (column 6, lines 4—34). In a proxy operation, a secondary file server concurrently performs the operations requested by the workstations and directed to the primary file server.

However, Kandasamy fails to teach or suggest the use of the secondary file server to write on a different file server's disk (i.e. a first source node directing a second source node to write on a target (i.e. 'third') storage node.

In contrast, Kandasamy teaches that a proxy server serve to establish a virtual server system, wherein any server could perform a write operation on its own disk, and in doing so, fill in for any other server in the virtual server system.

The Applicant respectfully submits that this does not imply that the proxy server of Kandasamy will function to perform a surrogate write operation on the target node associated with a different server. That is, each of Kandasamy's virtual machines write to their own disk and is addressed by its IP address (column 6, line 30). Thus, the each server in the virtual group performs its own writes to its own disk. A surrogate write operation, wherein one server writes to the disk of another server (the target node) is not taught by Kandasamy. Accordingly, the Applicant respectfully requests that the Section 103 rejection be removed.

Claim 38 is very similarly worded to Claim 31, and was rejected in the same passage of the Office Action mailed 10/22/2007. Accordingly, the Applicant incorporates the above arguments by reference to address the rejection of Claim 31.

Claims 32—34 and 39—41 depend from Claims 31 and 38 and are allowable due to their dependence from an allowable base claim. These claims are also allowable for their own recited features that, in combination with those recited in Claims 21 and 35, are not disclosed by reference of record.

Double Patenting

In the interests of promoting prosecution of this application, the Applicant has filed a Terminal Disclaimer. This filing should not be seen as acquiescence to the Office's position, but is intended only to promote a more economic prosecution.

Conclusion

The Applicant submits that all of the claims are in condition for allowance and respectfully requests that a Notice of Allowability be issued. If the Office's

next anticipated action is not the issuance of a Notice of Allowability, the Applicant respectfully requests that the undersigned attorney be contacted for the purpose of scheduling an interview.

Respectfully Submitted,

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